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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,479	03/25/2005	Xuanming Shi	88538.0001	4490
26021 7590 05/01/2007 HOGAN & HARTSON L.L.P. 1999 AVENUE OF THE STARS SUITE 1400 LOS ANGELES, CA 90067			EXAMINER CHOWDHURY, AFROZA Y	
			ART UNIT 2609	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/500,479

Applicant(s)

SHI, XUANMING

Examiner

Afroza Y. Chowdhury

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 21 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 21, **"the base layer of the electromagnetic induction generating layer is an insulated flexible membrane which can be a film material"**, it is not clear. What type of film material is used to make the base layer as insulated flexible membrane.

Regarding claim 23, **"antenna array cells are printed on the two sides of the membrane surfaces respectively"**, it is not clear. How many membrane surfaces are present there.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 21-25, 27-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura et al. (US Pub. US 2002/0008692) in view of Teterwak (US Pub. 2001/0055005).

As to claim 21, Omura et al. discloses an electronic blackboard system including an electronic blackboard main unit (page 6, [0109], fig.1, PDP(101)) having a writing layer (fig. 2(201), page 7, [0113]) as surface (Note: PDP stands for plasma display panel),

a bottom support bracket layer (fig. 7, page 8, [0133], rear surface of panel section 601) as bottom,

an input induction section (fig. 4), a recognition controlling circuit (fig.1, page 8, [0133], controller 103),

a signal output device (page 7, [0122], A/D converter) inside between the said two layers and a frame around (fig. 6(601)) page 8, [0131], panel section),

and also including an input pen (page 6, [0109], [0113]),

characterized in that: said induction section is composed of a covering layer (page 7, [0116] - [0117]),

an electromagnetic induction generating layer (fig. 4(202, 206), transmitting transducers) and a bottom support bracket layer (fig. 7, page 8, [0133], rear surface of panel section 601),

wherein the base layer (page 7, [0118], board 200) of the electromagnetic induction generating layer (fig. 4(202, 206), transmitting transducers) is an insulated flexible membrane which can be a film material, as best understood,

the surfaces of membrane are printed with an electromagnetic induction receiving antenna array (fig. 4, (203, 207), receiving transducers) which is induction antenna cells distributed along X axis and Y axis, thereby a flexible membrane electromagnetic induction generating layer is constituted,

the output of that electromagnetic induction generating layer (fig. 4(202, 206), transmitting transducers) is connected to the recognition controlling circuit (fig.1, page 8, [0133], controller 103).

Omura et al. does not teach an input pen that has a radio signal generating device.

Teterwak teaches a digitizer system including a stylus (fig. 1(104)) that propagates RF (radio frequency) signals and a controller circuit is implemented in the pen (fig. 2(200), page 1, [0004], [0019]).

Therefore, it would have been obvious to one skill in the art at the time of invention was made to combine Teterwak's digitizer system with radio frequency stylus with the electronic blackboard system of Omura et al. because this will provide an energy efficient high voltage oscillator for battery powered electronic pen used with an electrostatic digitizing table (Teterwak, page 1, [0002])

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As to claim 22, Omura et al. teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said recognition controlling circuit (fig.1, page 8, [0133], controller 103) is set on a PCB (printed circuit board), and the antenna's output port of said flexible membrane electromagnetic induction generating layer (fig. 4(202, 206), transmitting transducers) is spliced or plugged or welded to the corresponding input pin on the PCB (printed circuit board).

As to claim 23, Omura et al. discloses an electronic blackboard having electromagnetic induction generating device, characterized in that: said induction antenna array cells (fig. 4(202, 206), transmitting transducers, fig. 4, (203, 207), receiving transducers) are printed on the two sides of the membrane surfaces respectively.

As to claim 24, Omura et al. teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: more than one layer of induction antenna cells along X axis and Y axis are printed (fig. 4) on the two sides of the membrane surfaces and the layers are insulated from each other.

As to claim 25. Omura et al. teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: the intervals between the induction antenna cells of each layer can be uniform or different for more than one layer of induction antenna cells (fig.4).

As to claim 27, Omura et al. teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: a shielding layer can be provided behind said electromagnetic induction generating layer to increase the anti-interference capability (page 7, [0115]).

As to claim 28, Omura et al. teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said signal output device is a cable connecting device (page 8, [0127], modem) or a wireless data communicating device (page 8, [0127], network card).

As to claim 29, Omura et al. discloses an electronic blackboard having electromagnetic induction generating device, characterized in that: said cable connecting device (page 8, [0127], modem) is a cable having USB joint interface and said wireless data communicating device (page 8, [0127], network card) is a radio frequency transceiver.

As to claim 30, Omura et al. teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said signal output device is connected to a computer and/or a printer and/or a data storing equipment directly (page 8, [0127] - [0129]).

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As to claim 32, Teterwak teaches an electronic blackboard having electromagnetic induction generating device, characterized in that: said radio signal generation device of the writing input pen (fig. 1(104)) has a RF generating (fig. 2(200), page 1, [0019]), corresponding RF receiving device is provided on the whiteboard main unit (fig. 1(102), page 1, [0018], digitizer tablet).

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omura et al. (US Pub. US 2002/0008692) in view of Teterwak (US Pub. 2001/0055005) and in further view of Nakano et al. (US Patent 7091909)

As to claim 26, Omura et al. (as modified by Teterwak) teach an electronic blackboard, but he does not teach an induction antenna cell is made of silver paste material or mixture material of silver paste and carbon paste.

Nakano et al. discloses an idea of making antenna with silver paste (page 3, lines 25-33)

Therefore, it would have been obvious to one skill in the art at the time of invention was made to include Nakano's Silver paste antenna cell into the electronic blackboard system of Omura et al. (as modified by Teterwak) since this will provide broadening bandwidth with superior electrical, thermal, and mechanical properties.



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6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omura et al. (US Pub. US 2002/0008692) in view of Teterwak (US Pub. 2001/0055005) and in further view of Nakano et al. (US Pub. 2002/0074171).

As to claim 31, Omura et al. (as modified by Teterwak) does not teach a pen that has an electromagnetic wave generating device.

Nakano et al. discloses a pen (fig. 3(30), (33)) that generates electromagnetic wave (page 3, [0038]).

Therefore, it would have been obvious to one skill in the art at the time of invention was made to combine Teerwak's technique of making pen with the electronic blackboard system of Omura et al. (as modified by Teterwak) to build an electronic whiteboard system comprising a stylus that generates both radio signal and electromagnetic wave.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afroza Y. Chowdhury whose telephone number is 571-270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC



AMARE MENGISTU  
SUPERVISORY PATENT EXAMINER